

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2018**

WEDNESDAY, JUNE 21, 2017

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:36 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Thad Cochran (chairman) presiding. Present: Senators Cochran, Shelby, Murkowski, Blunt, Daines, Moran, Durbin, Tester, Udall, and Schatz.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE AIR FORCE

OFFICE OF THE SECRETARY

STATEMENT OF HON. DR. HEATHER WILSON, SECRETARY

OPENING STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. The Committee on Defense Appropriations will come to order.

We are here today to receive the submission by the Department of Defense, and the U.S. Air Force in particular, about the funding needs for the next fiscal year.

We appreciate very much you providing us copies of the statements and responding to questions our staff has had with your staff members about this proposed budget for fiscal year 2018.

The purpose of this hearing is to specifically review the funding and the \$132.4 billion in base funding and \$13.9 billion to support ongoing Overseas Contingency Operations. For those who love acronyms, that is referred to as OCO.

The Air Force leadership has presented this fiscal year 2018 submission to request investment of resources into improving war fighter readiness, achieving program balance, and building capacity. That is a big order, and we appreciate the fact that there have been a lot of people working long and hard to make choices that reflect our needs for the United States Air Force.

Our witnesses this morning are Dr. Heather Wilson, Secretary of the Air Force and General David L. Goldfein, Air Force Chief of Staff. Secretary Wilson is making her very first appearance before the Committee as Secretary of the Air Force. She has more than 35 years of professional experience in a wide range of Government and private industry responsibilities.

We look forward to hearing more about the details of the priorities and the appropriations needed to ensure that the United States Air Force is trained, equipped, and prepared to defend our interests around the world.

We thank you for your presence and your discussions with us prior to the hearing in preparation for the hearing. We have statements that you have submitted to the Committee and we will see that they are included in the record.

I will first recognize the Vice Chairman, Mr. Durbin, the Senator from Illinois, who is not here.

Senator Shelby, do you have a statement?

Senator SHELBY. Thank you, Chairman Cochran, for holding this hearing to review the fiscal year 2018 budget request for the Department of the Air Force. I also want to thank Secretary Wilson and General Goldfein for joining us today. The goal of this hearing is to ensure that we are providing the necessary funds to train and equip our Air Force to fly, fight, and succeed in air, space, and cyberspace—maintaining our objective of global vigilance. We appreciate your service and look forward to hearing how your budget balances these important priorities.

Senator COCHRAN. Are there other members of the Committee who would like to make an opening statement?

Vice Chairman Durbin is our distinguished Senator from Illinois, and we are prepared to yield to him for any opening statement he would like to make.

[The statement follows:]

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Good morning, the subcommittee will come to order.

Today we will receive testimony on the fiscal year 2018 budget request for the Department of the Air Force.

The budget request recommends \$132.4 billion in base funding and \$13.9 billion to support ongoing Overseas Contingency Operations. The Air Force leadership shaped the fiscal year 2018 budget submission to invest resources into Improving Warfighter Readiness, Achieving Program Balance, and Building Capacity.

Our witnesses are the Honorable Dr. Heather Wilson, Secretary of the Air Force, and General David L. Goldfein, Chief of Staff of the Air Force.

We are pleased to welcome Secretary Wilson and General Goldfein for their first appearance before the subcommittee. Thank you for your service and leadership.

We look forward to hearing more about your priorities and the appropriations needed to ensure the United States Air Force is trained and equipped to defend our interests around the world.

Thank you for your testimony this morning. Your full statements will be included in the record.

I now recognize Vice Chairman Durbin, the distinguished Senator from Illinois, for his opening remarks.

STATEMENT OF SENATOR RICHARD J. DURBIN

Senator DURBIN. Thank you very much, Mr. Chairman.

Let me apologize. There were conflicting committee hearings with the judiciary committee. I tried to stop in there quickly and unfortunately, I am late here. I apologize.

I am pleased to join you in welcoming the Secretary of the Air Force, the Honorable Heather Wilson and Chief of Staff of the Air Force, General David Goldfein, to our hearing and to review the budget for fiscal year 2018.

Like each of our military services, I am seriously concerned that the President's budget proposal does not move us any closer to a budget deal or a solution to sequestration. We have to face that.

If I sound like I started the day having a little drink for breakfast, it is because I just left the dentist. So forgive me if I sound a little slurred.

Let me put the rest of my opening statement in the record with your permission.

Senator COCHRAN. Without objection. It is so ordered.

[The statement follows:]

PREPARED STATEMENT OF SENATOR RICHARD J. DURBIN

Mr. Chairman, I am pleased to join you in welcoming the Secretary of the Air Force, the Honorable Heather Wilson, and the Chief of Staff of the Air Force, General David Goldfein, to our hearing to review the Air Force's budget request for fiscal year 2018.

SEQUESTRATION

Like each of our military services, I am seriously concerned that the President's budget proposal does not move us any closer to a budget deal, or a solution to sequestration.

The stakes are high. The Air Force stands to lose \$15 billion in funding requested in its budget to sequestration. Even worse, those cuts could come in the form of mindless cuts to every line and program, preventing you from protecting important programs and sacrificing others.

As of today, there are no ongoing negotiations to change the Budget Control Act's strict spending caps. It appears that this Congress is likely to do one of two things: provide more funding for the Defense Department through a massive OCO gimmick, or simply kick the can down the road for several months and hope that we stumble onto a solution for sequestration, perhaps even by accident.

This is no way for the greatest nation on earth to run the world's most powerful military.

PILOT SHORTFALL

There are two other matters that I hope the witnesses can address in their opening statements.

General Goldfein, there are reports that the pilot shortage in the Air Force could reach as high as 1,500. This is particularly alarming because of the importance of our air power to reassure our European allies of our commitment to their defense, as well as current operations against ISIL.

This subcommittee needs to know how this shortfall developed, what is being done about it today, and how this budget proposal will address the problem.

ROCKET ENGINES

Secretary Wilson, last year, the Senate voted to approve a plan to phase out the Russian RD-180 rocket engine, which is currently vital to our ability to launch certain satellites.

Congress is doing everything in our power to make sure we replace this engine with an American-made one, as soon as possible. I would ask you to update the Subcommittee on whether this program is on cost and on schedule, and if there are any risks that we need to know about.

CONCLUSION

Mr. Chairman, thank you for calling this important hearing, and I look forward to hearing from our witnesses.

Senator COCHRAN. Madam Secretary, we are pleased to recognize you as the Secretary of the Air Force for any opening statement you may have.

SUMMARY STATEMENT OF HON. DR. HEATHER WILSON

Secretary WILSON. Thank you, Mr. Chairman.

I will say a few things, and make a few highlights, and then I will ask the Chief if he would do the same.

A couple of things to, perhaps, take away from this hearing, and from the statement, and the budget that we have presented to you all. The first, and probably the most important, is that the Air Force is too small for what the Nation expects of it.

The fiscal year 2017 budget began to arrest the decline and to restore the readiness of the force. So this budget, fiscal year 2018 budget, starts us, I hope, on the road to recovery.

So what does it really do? What does this fiscal year 2018 budget really do for the Air Force?

It continues to recover readiness and for us, for the Air Force, readiness is first and foremost about people and their training. We are short of people and this budget starts to turn back up after about a decade of decline.

The second big thing it does, with respect to readiness, has to do with munitions and we have several things in the budget that funds additional munitions to replace stocks.

We also need to modernize the Force. So we are starting to recover readiness, but we have also got to modernize for the long term and make the Force more lethal.

This budget funds 46 F-35 fighters, 15 KC-46 tankers, and continues the B-21 program to get that going, but it also has upgrades to a lot of other equipment; the F-22, the F-15, F-16. So there are a number of pieces of modernization in this budget in addition to readiness.

I would like to talk for a little bit about space. I am the principal advisor to the Secretary of Defense with respect to space for all of the Department of Defense.

The Air Force has been the leader on space for the Defense Department for 54 years. We provide GPS for the world. Most of you probably have it on your phones or drove here this morning using it. That is courtesy of six young airmen who live in Colorado Springs, Colorado.

We do missile and nuclear detonation warning, weather, secure command and control of communications, all of that is enabled by the United States Air Force for the other services and for civil society.

When General Goldfein and I were young officers, space was a benign place. In fact, it was a benign place probably up until the early 2000's. Actually, I served on the House Intelligence Committee in 2007 when the Chinese launched a kinetic intercept and destroyed one of its own dead weather satellites.

It is not a benign place anymore. Our adversaries know that we are heavily dependent upon space capabilities and that we are vulnerable. We have to expect that war will extend into space in any future conflict.

This budget proposal has a 20 percent increase for space. That means situational awareness, the ability to not just catalog what is up there, which we would do in a passive and benign environment, but to have a near real time understanding of what is going on in space, who is moving, and where they are moving to.

Secure command, control, and communications of space. It is not to know where things are. We have to be able to control things in

an integrated way. This budget funds an Integrated Battle Management Command-and-Control System for the Army, Navy, Air Force, and intelligence communities on the same floor looking at the picture in space and deciding what we should do to protect our assets there.

We need assured access to space. Competition is reducing launch costs for satellites. We now have two providers for medium and heavy launch, the SpaceX Falcon 9 will go up again on August 17. And we have an emerging small satellite launch industry that is going to bring the costs of access to space down for the United States Air Force, which is a very good thing.

We also need the ability to defend ourselves in space. That means systems, but also tactics and training. We need things like anti-jam GPS, which is funded in this budget.

We have a National Space Defense Center that has been experimenting for a little over a year with new tactics techniques, and capabilities. They have identified the top 40 user needs to be able to defend ourselves in space, to take a punch and keep on providing the services that people need who depend on space capabilities.

Finally, training to prevail. We are changing the way we train our airmen who are operating space systems so that they have advanced wartime operations and concept development.

So those are the things that we are doing with respect to space in this budget.

Last week, I announced a reorganization within the Department of the Air Force with respect to space capabilities so that we integrate, normalize, and elevate space as a part of the joint war fighting team.

And with that, I would like to ask if Chief Goldfein might be able to add some things.

STATEMENT OF GENERAL DAVID L. GOLDFEIN, CHIEF OF STAFF

General GOLDFEIN. Thanks, Madam Secretary and thank you, again, for stepping up to serve once again. It is an honor to serve with you these 39 years later. I am honored to fly on your wing.

Chairman Cochran, Ranking Member Durbin.

Thank you again for holding this hearing.

I want to spend just a few moments and dive a little deeper into a statement the Secretary made about our Air Force being too small for the missions that the Nation relies on for us to perform today. Because many of the missions that we perform, both to defend the homeland and project power, and to do those missions that we do abroad, have become assumed capability to the American people.

And so, I would like to walk you through the missions that we are doing now simultaneously to both defend the homeland from the homeland, project power forward, and what we do when we are deployed and based forward. And for the Air Force, it begins with the nuclear enterprise.

Standing side by side with the United States Navy, we are responsible for two of the three legs of the nuclear triad: the bomber leg and the missile leg. And on our worst day as a Nation, our job is to make sure that we have the Commander-in-Chief where he needs to be, when he needs to be there. Through Nuclear Com-

mand and Control, which we are responsible for, that he stays connected to a ready force to be able to defend this Nation and deter adversaries as we also assure our partners. For an airman, our nuclear enterprise—safe, secure, and reliable—is job one.

To be able to get the indications and warnings he needs to make the decisions he needs to make on our worst day as a Nation, much of the intelligence surveillance and reconnaissance comes from space, whether we want to talk about early warning, protected communications, or as the Secretary mentioned, precision navigation and timing.

Twelve constellations today are being flown by airmen and we join a long line of Secretary and Chief Teams who have been stewards of space since 1954, and we look forward to talking about more of that in this hearing.

Someone has to turn the ones-and-zeros that we collect into a common operational picture and decision quality information. And that very often falls on 35,000 airmen who are in the Intelligence Surveillance and Reconnaissance business, ISR, as we call it.

Whether we want to talk about airmen who are flying missions from Creech Air Force Base in Nevada, who are contributing to the fight against ISIS (Islamic State in Iraq and Syria) and other intelligence collection around the globe, or those who are doing the analytical work 35,000 airmen today are doing the work that presents that common operational picture for leaders to be able to make decisions.

Side by side with our sister services, we are in the business of building cyber mission and cyber protection teams. You will see in this budget that we are on track to complete the 39 teams that we perform in terms of cyber defense and cyber offense.

Just to put it in perspective, in 2016 alone, there were over 1.3 billion adversarial connects into our networks that we were able to thwart. That turns into about 40 per second, when you do the math. And so, we do that with our sister services as we build the cyber mission teams that Admiral Rogers relies on to be able to defend the critical infrastructure of our Nation.

If you heard jet noise this morning coming into the building, it very well may have been from two F-16's that scrambled from Andrews Air Force Base just as we do across the Nation to protect the critical infrastructure of this country and perform the work for General Lori Robinson in her role as the NORTHCOM Commander.

Those are the missions that we do just here in the homeland to defend the homeland and project power abroad.

Now, let me shift to what we do across the globe when we are faced forward and deployed forward. It begins with gaining and maintaining air superiority, which is the freedom from attack and freedom to maneuver.

For airmen, it is nothing short of a moral obligation to ensure that we establish air superiority quickly whenever and wherever it is required.

Put it very simply, when a soldier, sailor, airman, or marine are on the ground, and they hear jet noise, we never want them to look up. We want them to know it is us.

Once we have achieved air superiority, we operate on a system of bases across the globe. Every 2½ minutes, an Air Mobility Command aircraft takes off or lands somewhere on the globe to deliver critical supplies or personnel when and where they are needed.

Many of those bases are in under-governed territories or in unsecured areas. And so, we rely on our special forces, our air commandoes, to go and to secure those bases. I would offer to you that we are a global power because of our ability to achieve global reach.

I cannot give you a better example of holding targets at risk with precision strike than launching two B-2's from Whiteman Air Force Base in January, fly 32 hours roundtrip, 16 air refueling, and hit two targets with 80 precision guided munitions within 10 seconds of their planned time over target.

Finally, in the fight against ISIS, Lieutenant General Harrigan commands a force of over 16 nations that are committed to the fight against ISIS. It is the United States Air Force that is leading the charge in terms of taking the attack to the enemy.

Whether you want to talk about the fighters that are overhead, whether you want to talk about the command and control, the tankers, we provide about 70 percent of the force.

To put this in perspective, in 1991 had I been talking to the Air Force as the Chief of Staff, I would have been talking to an Air Force of just shy of 1 million active Guard and Reserve, and civilian airmen. Today's Air Force is a total of 660,000; over 30 percent smaller.

If I had been talking to an Air Force in 1991, I would have been looking at an Air Force of over 8,600 aircraft, 134 fighter squadrons from which we deployed 34. Today, the grand total in your United State Air Force active Guard and Reserve is 55 squadrons total.

This is a much smaller force that is engaged in the same level of activity as we were in 1991 to emphasize the Secretary's point that we are too small for what the Nation requires us to do.

We did not get here overnight. We will not recover overnight. But with your help, if we move beyond sequester and the damaging effects that that has caused the Air Force that we are still recovering from, the last round, and if we can get continuous, stable budgets we can turn this around. And with your help, we will provide our airmen the quality of service and the quality of life that they so richly deserve.

Thank you, Chairman. I look forward to your questions.

[The statement follows:]

PREPARED STATEMENT OF HON. DR. HEATHER WILSON AND
GENERAL DAVID L. GOLDFEIN

THE FUTURE OF AIR AND SPACE POWER

Air and space power are vital to our Nation's security. Any objective evaluation of today's U.S. Air Force reaches stark conclusions.

—First, the Air Force is too small for the missions demanded of it and it is unlikely that the need for air and space power will diminish significantly in the coming decade.

—Second, potential adversaries are modernizing and innovating faster than we are, putting at risk America's technological advantage in air and space.

The resources provided in fiscal year 2017 have begun to arrest the readiness decline. The fiscal year 2018 President's Budget request begins to restore readiness and increase the lethality of the force. Future budgets must focus on modernization

and continued readiness recovery so that we can defend the homeland, own the high ground, and project power in conjunction with allies.

AN AIR FORCE IN DEMAND

Today's Air Force is growing after a period of significant decline and we must continue to increase the size of the force. Currently, the Air Force includes 660,000 active, guard, reserve and civilian Airmen, compared to 946,000 just 26 years ago when we fought in Operation Desert Storm—a 30 percent reduction.

The Air Force also reduced its aircraft inventory over this same period from 8,600 to 5,500 aircraft. We have 55 combat-coded fighter squadrons across the active duty, guard, and reserve, compared to 134 squadrons during Desert Storm.

Before 1991, the Air Force bought approximately 510 aircraft per year. In the past 20 years, we have averaged only 96 per year. Today, the average age of our aircraft is over 27 years.

And, unlike during the Cold War, Air Force aircraft have been flying in combat for 26 straight years. When the Islamic State of Iraq and Syria (ISIS) sought to consolidate power in Syria and northern Iraq in 2014, the U.S. Air Force surged to the fight. Since then, Airmen have executed over 70 sorties daily against ISIS targets. Coalition air forces have put over 80,000 weapons against enemy targets in over 26,000 airstrikes in Iraq and Syria since the campaign began. Over 70 percent of those strikes have been conducted by the U.S. Air Force.

Last year alone, MQ-1 and MQ-9 remotely piloted aircraft crews flew more than 351,000 hours and employed more than 3,000 weapons, removing thousands of enemy combatants from the battlefield and protecting U.S. and coalition forces.

Air Force intelligence, surveillance and reconnaissance provides warfighters over 6,000 intelligence products per day that are used to identify enemy targets and initiate 70 percent of Special Operations Forces assaults on terrorists.

Air Force-operated space-based sensors provide around-the-clock global coverage for missile warning, nuclear detonations and other threats.

And Air Force cyber operators blocked more than 1.3 billion malicious connections in 2016 alone, an average of more than 40 malicious connections per second.

While we continue to extend the life of old aircraft, materials suffer fatigue and maintaining old equipment is time consuming and expensive.

We are short of maintainers and pilots. While flying hours to defeat ISIS overseas is a priority, training to confront near peer adversaries has suffered. We are at our lowest state of full spectrum readiness in our history. Only 50 percent of our squadrons are ready to conduct all of the missions assigned to them.

The decisive warfighting advantages we hold over our near peer adversaries are diminishing.

Air and space superiority—owning the high ground—is not America's ordained right. We cannot take it for granted. We must plan for it, equip for it, train for it, and fight for it.

THE CHANGING SECURITY ENVIRONMENT

Adversaries are rapidly developing new capabilities to control air and space. They seek to undermine the credibility of our alliances, contest our freedom of maneuver, and neutralize our ability to project power. Over the past several years, their targeted investments in critical capabilities have outpaced our own.

Russia continues its aggression and malign influence in Ukraine and Syria while seeking to return to great power parity with the U.S. by modernizing its military.

China is fielding new defense platforms at a startling pace and continues to expand its regional influence in the East and South China Seas.

North Korea is accelerating nuclear and missile testing. Their actions in the Pacific increase risk of miscalculation and threaten the security of our allies and the homeland.

Iran continues to support international terrorist organizations and extend its negative influence throughout the Middle East while modernizing an array of military capabilities.

Each of these state actors possesses or is pursuing advanced long-range capabilities with the potential to strike American soil.

At the same time, violent extremist organizations and individuals inspired by them are threatening America and our allies.

Potential adversaries are quickly closing the gap in the decisive warfighting advantages we have held for decades. As their capabilities become stronger, the international order will grow more unstable and the strategic risks to American security and our global interests will increase. Staying ahead of these trends will require a concerted, coordinated effort.

STOPPING THE DECLINE

The Consolidated Appropriations Act of 2017 begins to arrest the decline and focuses on starting to restore the readiness of the force. The funds for fiscal year 2017 address critical capability shortfalls, and enable us to start to address delayed procurement and modernization of our force. This is a critical first step in restoring the Air Force's capabilities to meet future threats. We must have stable, predictable budgets that include strategy-driven funding.

We also add our voice to the chorus of concern that budget instability is itself a significant problem. Continuing resolutions, or worse, sequestration, puts at risk our ability to successfully accomplish what our Nation asks of us.

A failure to provide relief from the current Budget Control Act caps would cut \$15 billion from the Air Force budget—a reduction that would further hollow out the force and set us back years.

RESTORING THE FORCE

Looking ahead, we are focused on restoring readiness, cost-effective modernization, innovation for the future, and developing exceptional leaders. These areas of focus will allow us to defend the homeland, own the high ground, and project power in concert with our allies.

Of course, there is an assumption behind our plans. As a Nation, since the end of World War II, America has chosen to be a global power, capable not only of defending the homeland, but gaining and maintaining dominance over areas of operation abroad. We have an Air Force that provides global mobility, global intelligence surveillance and reconnaissance, global strike, and global command and control to protect our vital national interests in concert with allies.

Threat drives strategy; strategy drives force posture. America's national security interests continue to be global in scope, requiring an Air Force which goes beyond homeland defense or regional power projection.

RESTORING READINESS

The Air Force budget recognizes that we cannot restore our readiness in a single year. When we lose an F-22 avionics specialist with 10 years of experience, we cannot hire another person with 10 years of experience on the F-22. We have to recruit them, train them, mentor them and, most importantly, retain them.

For the Air Force, readiness is first and foremost about people.

PERSONNEL—RESTORING READINESS

The fiscal year 2017 budget increased active duty manpower to 321,000 Airmen. The fiscal year 2018 President's Budget request continues to rebuild the force to 325,100 active duty Airmen, while also adding 800 reservists, 900 guardsmen, and 3,000 civilians. The Total Force will increase to 669,611 people from 660,707 in fiscal year 2017. The additional personnel are focused on increasing maintainers—particularly for the F-16 and F-35A, increasing remotely piloted aircraft crews, and increasing pilot training capacity by adding two new F-16 formal training squadrons. It also allows us to reduce critical gaps in our space, nuclear, cyber, and intelligence career fields.

Pilot retention continues to be a significant concern. We project a deficit of approximately 1,500 total active, guard, and reserve pilots at the end of fiscal year 2017 and trending further negative in the near term. Our fighter pilot shortage has already reached crisis levels and we will be approximately 1,300 Total Force fighter pilots below the requirement at the end of this fiscal year. There will be no single solution and no quick fix for the pilot shortage. This budget expands pilot training, continues incentive pay and bonuses, increases administrative support at the squadron level, improves readiness, and funds flying hours.

This budget request also includes 1,168 military and civilian positions to support squadron commanders so that "additional duties," which were shifted to operators, aircrew, and maintainers over years of personnel cuts and most recently in the wake of sequestration and the Budget Control Act, can be performed by dedicated support staff.

Squadrons are where readiness is generated and sustained, and where Airmen and families thrive. It is also where leadership matters the most. We are working to revitalize squadrons as the most essential level of command and the heart of our Air Force. Over the coming year, the Air Force will be reviewing leadership development, particularly at the squadron level.

In order to restore readiness, the budget request includes \$6.2 billion to fund flying hours at maximum executable levels and \$11.9 billion to fund weapons system

sustainment (parts, maintenance and logistics support) to near the maximum executable level. While the budget for flying hours decreases slightly from fiscal year 2017, this reduction is largely because of a decline in fuel costs.

Further, the fiscal year 2018 President's Budget request funds a continuation of 641 active, guard, reserve, and civilian positions dedicated to Sexual Assault Prevention and Response (SAPR).

Finally, this budget request is vital for the quality of life for our Airmen and their families—funding a 2.1 percent increase in military pay, a 3.2 percent increase in basic allowance for housing, and a 3.4 percent increase in subsistence.

MUNITIONS—RESTORING READINESS

In addition to adding people and training, this budget request also addresses munitions. In the fight against ISIS in Iraq and Syria, the Air Force has delivered more than 56,000 direct attack munitions from the air. That is more than we used in all of Operation Iraqi Freedom.

Our use of munitions in operations is out-pacing production. Working with industry, the fiscal year 2018 President's Budget request funds maximum factory production of the most critical munitions, including the Joint Direct Attack Munition, the Hellfire missile, and the Small Diameter Bomb.

COST-EFFECTIVE MODERNIZATION

While restoring readiness is primarily about the size of the force, quality training, and munitions, for the long term the Air Force must modernize its weapon systems and equipment to defeat emerging threats.

The fiscal year 2018 President's Budget request budget prioritizes our top three acquisition programs to modernize the force: the F-35A fighter, the KC-46 tanker, and the B-21 bomber.

The F-35A is essential to our national security—a stealthy multi-role fighter needed to own the high ground and project power against increasingly capable adversaries. This budget request funds the purchase of the next 46 F-35A fighters with a goal of reaching 60 per year in the future. The budget also focuses on restoring readiness and modernizing our 55 combat-coded fighter squadrons.

We have enhanced our air refueling capability by entering initial production of the KC-46 Pegasus tanker. The KC-46 program modernizes our aerial refueling fleet, providing global mobility for the joint force and our allies. The fiscal year 2018 President's Budget request buys 15 more KC-46 aircraft. The Air Force expects to sustain steady state production of 15 KC-46 aircraft a year throughout the Future Years Defense Program (FYDP).

We are rapidly developing the B-21 Raider long-range strike bomber. The B-21 will form the backbone of our future bomber force, ensuring the ability of our Nation's leaders to hold targets at risk around the world with both conventional and nuclear weapons.

While the F-35 fighter, the KC-46 tanker and the B-21 bomber are our top modernization priorities, there are a number of other modernization efforts supported in the fiscal year 2018 President's Budget request. These include the modernization of F-22A, F-15, and F-16 aircraft so that they remain viable, along with B-52, B-1, and B-2 bombers for strategic delivery of advanced munitions.

In the realm of intelligence, surveillance and reconnaissance, the Air Force continues to support the MQ-9 Reaper, RQ-4 Global Hawk, and RC-135 Rivet Joint upgrade strategies.

The fiscal year 2018 President's Budget request supports special operations and combat search and rescue with the purchase of two HC-130J and five MC-130J aircraft. We also sustain our commitment to command and control by funding several upgrades to the E-3 Airborne Warning and Control System (AWACS).

MODERNIZING THE NUCLEAR DETERRENT

All legs of our nuclear triad need to be modernized. The last major recapitalization of U.S. nuclear forces occurred in the 1980s. In the case of the Air Force, maintaining our aging nuclear weapons systems remains critical but it becoming more expensive and less practical.

Nuclear deterrence underpins national security for the United States and our allies. The Air Force stewards two legs of the Nation's strategic nuclear deterrent and operates 75 percent of the nuclear command, control, and communications for the President and the military chain of command. Additionally, forward-based nuclear capable aircraft are a key component of the U.S. commitment to deter attack on our allies.

The intercontinental ballistic missile (ICBM) force represents the most responsive leg of the nuclear triad. The dispersed basing of our land-based deterrent enhances strategic stability by creating an extraordinarily high threshold for a large-scale conventional or nuclear attack on the U.S. homeland. The air-delivered leg of the triad and dual-capable fighters provide a recallable, and highly visible force to extend deterrence, demonstrate resolve, and signal U.S. strategic commitment to our allies.

In addition to the B-21 bomber, the Air Force is committed to modernizing the nuclear enterprise by replacing Air-Launched Cruise Missiles with the Long Range Stand-Off cruise missile, modernizing ICBMs with the Ground Based Strategic Deterrent (GBSD), replacing the UH-1N helicopter, and making targeted investments in nuclear command, control and communication.

MEETING THE SPACE THREAT

For decades, the United States enjoyed unimpeded freedom of action in space. This benign environment allowed us to operate satellites for intelligence collection, missile warning, weather monitoring, communications, and precision positioning, navigation, and timing without considering how to protect these systems. That environment no longer exists. Our adversaries understand the advantages we derive from space and are actively pursuing capabilities to diminish them. In future conflict, space will be contested.

The Air Force has been the leading military service responsible for space systems for 54 years, and the Secretary of the Air Force is the principal advisor to the Secretary of Defense on space.

Over the last several years, the U.S. Air Force has been developing operational concepts to ensure freedom of action in space, changing the way we train our space force, and integrating space with the joint force.

The fiscal year 2018 President's Budget request increases the Air Force's space investment funding from \$6.5 billion in fiscal year 2017 to \$7.8 billion, a 20 percent increase. This increase represents a 27 percent increase in research, development, testing and evaluation (RDT&E) for space systems and a 12 percent increase in space procurement.

The budget request includes a fixed price block buy of Space Based Infrared Systems (SBIRS) 5 and 6 satellites. The budget funds purchase of terminals, ground control systems, and related communications security for satellites and funds three launches as part of the Evolved Expendable Launch Vehicles (EELV) program.

To fill a gap in weather coverage, the budget request funds a weather satellite through the Operationally Responsive Space (ORS) office.

While our existing Global Positioning System (GPS) satellites remain healthy, we face increasing risk from potential adversary advances, and will improve anti-jamming and secure access to military GPS.

The Air Force budget also funds the continuation of the Space Security and Defense Program and the National Space Defense Center where we are experimenting with concepts to ensure freedom of action in space and resilience in an integrated center that includes all sister-services, as well as the intelligence community. It also funds improvements in space situational awareness, which is foundational for space control, integrated ground systems and improved training of space forces.

Our budget supports the continued integration and normalization of space in the joint warfighting environment and places a high priority on space to ensure that our space systems continue to operate in a contested environment. We would prefer that war not extend into the space domain, but must be prepared to win if it does.

MODERNIZING CYBER

The fiscal year 2018 President's Budget request funds 39 offensive and defensive cyber teams that are on track to be fully operational in fiscal year 2018. The budget anticipates an increased reliance on contractors for basic information technology and cloud services so that military members can focus on advanced threats and warfighter missions as part of the joint force.

INNOVATION FOR THE FUTURE

Research, development, test and evaluation are critically important for a technically oriented service. The fiscal year 2018 President's Budget request includes a significant increase in funding for systems development and testing for the B-21, the Global Positioning System Operational Control System (OCX) and the Long Range Standoff cruise missile. Funding is also included for engineering and risk reduction for the Presidential Aircraft (PAR), Joint Surveillance and Target Attack Radar System (JSTARS) replacement, and the new Combat Rescue Helicopter.

Funding for basic and applied research related to longer-term national security challenges remains flat in this budget request, although funding for long term research on air dominance is increased significantly. Over the next several years, the Air Force will seek to increase basic and applied research in areas where we must maintain the competitive advantage over potential adversaries, including game-changing technologies like hypersonic vehicles, directed-energy, unmanned and autonomous systems, and nanotechnology.

ACCELERATING PROCUREMENT

To prevail against a rapidly innovating adversary, the Air Force must get capability from the lab bench to the warfighter faster than ever before.

In the fiscal year 2017 National Defense Authorization Act, Congress expanded acquisition authorities for the services. Taking advantage of this flexibility, the Air Force is sponsoring an experiment in August 2017 to evaluate low-cost, permissive environment attack aircraft. While this is an experiment, not a procurement, the project has gone from approval by the Chief of Staff of the Air Force to an operational capabilities assessment in five short months.

The Air Force is also testing new procurement methods with early stage, highly innovative companies who do not normally do business with the Department of Defense. If successful, we will seek to replicate this approach. While not appropriate for large system development, these kinds of projects can open the pathway to rapid innovation for air and space dominance.

INFRASTRUCTURE AND MILITARY CONSTRUCTION

Constrained by the Budget Control Act, the Air Force has prioritized combat and not infrastructure. The fiscal year 2018 President's Budget request includes \$2 billion for military construction. The beddown of new missions, combatant commander needs, and strengthening the nuclear security enterprise have been given priority for the limited funding available.

In addition, the fiscal year 2018 President's Budget request funds construction of improved ranges at the Utah Test and Training Range and Red Flag in Nevada so that we can train using the full range of capabilities available to our aircrews in the F-35A. The budget also funds additional virtual and constructive, or "synthetic", Operational Training Infrastructure (OTI). Synthetic capability provides opportunities to test and train against the world's most significant threats at reduced cost.

The Air Force supports the Department of Defense request for authorization to conduct a Base Realignment and Closure (BRAC) round in fiscal year 2021. Completing the more detailed analysis once a BRAC is authorized will have value, and may highlight opportunities for some savings. Enduring savings from BRAC recommendations will leave more DoD resources available for future force structure or readiness requirements. BRAC also allows us, if the analysis supports it, to reposition forces or station new forces in locations that optimize their military value.

CONCLUSION

The fiscal year 2018 President's Budget request begins to restore Air Force readiness with a focus on people, high quality training, squadron support, and critical munitions.

The budget request also invests in top priority procurement to increase the lethality of the force with the F-35A fighter, KC-46 tanker, and the B-21 bomber while also making significant investments in space, the nuclear deterrent, and special operations.

As we enter our 70th year as a separate service and our 26th year of continuous combat operations, we have presented a budget that starts to turn the corner by building on the fiscal year 2017 budget that arrested years of decline.

As important as program funding is, we also need budget certainty. A return to the current Budget Control Act caps will pose unmanageable—and unacceptable—risks to our ability to protect America's vital national interests.

We request that Congress support this budget and provide fiscal predictability for the Air Force so that we can support the National Military Strategy by defending the homeland, owning the high ground, and projecting power in conjunction with allies.

Senator COCHRAN. Thank you very much, General Goldfein and Madam Secretary Wilson.

Give us the benefit of your oversight of what we should be doing about pilot shortages. We know that there are increases needed in

training at Columbus Air Force Base in Mississippi, for example. We understand there are demands throughout for more pilots to be trained in the future than are now being trained.

Could you give us an overview of what the challenges are? I would like both of you to respond to the question.

General GOLDFEIN. Yes, sir.

Just a couple of numbers upfront just to put it in perspective, we require an Air Force of about a little over 20,000 pilots to do all the missions that we perform. Right now, we are about 1,555 overall short.

The most critical point right now, we are finding, is in the fighter pilot business where we are about a little over 1,200 short of what we need. So the way we are attacking this, actually, is through a number of different activities.

The first thing we are doing is we are having a national level discussion. I hosted a meeting with airline CEO's, both majors and regional and the key industry partners. We acknowledged the fact that as a Nation, we do not produce the number of pilots that we require nationally to service both defense and commerce.

And so, we are looking at a number of working groups that we have now established to take a look at how we increase the supply across the Nation beyond just what is required for the military because the airlines are desperately short of the pilots they need. So first of all, we are attacking it at a national level.

Then within the military, what we are looking at is what can we do to improve the quality of service and the quality of life associated with duty as an airmen in the Air Force, as a pilot, so that we can increase our retention rates?

We appreciate what Congress has done by allowing us to up the aviation bonus to \$35,000 which we think is going to have an effect. And so, what we have done is we have tiered that on a business case analysis based on the greatest need to ensure that we are paying money to those that we have to retain the most, relative to the amount of time it takes to replace them.

The second thing that we are doing is the Secretary and I are working on a number of initiatives to improve quality of service, and that goes to getting them in the air.

Pilots who join the Air Force join to fly high performance aircraft. Pilots who do not fly, maintainers who do not maintain, air traffic controllers who do not control are not going to stay with us. So you will see in this budget investment in getting pilots airborne.

We are looking at a number of initiatives to be able to reduce what we call the irritants, and those things that are actually degrading readiness over time in the force in this much smaller force that is heavily tasked to ensure that we increase white space on their calendar.

So all of those things that we are doing, both at the national level within the service and across the Joint Chiefs, we are attacking to get after this.

Senator COCHRAN. Secretary Wilson, would you like to respond to that question?

Secretary WILSON. Sir, just to add a few things into what General Goldfein said.

Readiness is a retention issue. If we are asking pilots to do a job and we are not giving them the flying hours and the support they need to do the job, they are much more likely to leave. So if we can increase readiness and make sure that those jets are ready to go when they go out to the flight line that helps.

I would also say that in this budget, there are over 1,000 new positions to add in at the squadron level. Life for an airman is at the squadron level. And when the Air Force went through sequester before, a lot of that support was taken out. So you had pilots doing things like scheduling and other things that were additional duties that they probably should not have been doing. So this puts more support back in at the squadron level with over about 1,000 people.

There is not going to be one solution to this. We are increasing pilot training from about 1,200 a year to 1,400 a year. But we have got to do a hundred little things to increase retention in the force.

Just as one example, the Chief went out and talked to a lot of pilots on what are the irritants? And one of them was the explosion of required online distance training. You have to go through the road training stuff on the computer every year and there were actually 69 required hours every year of this stuff that had just accreted over time, whether it is safety training for how to use the fire extinguisher or whatnot.

Some of that is important, but we reviewed it all and then we reduced it from 69 hours down to 8 hours of mandatory distance-delivered training.

So let us get some of the gunk out of the system, and make it a little cleaner, and improve the quality of life, and quality of service.

Senator COCHRAN. The chair recognizes the Senator from Illinois, Mr. Durbin.

Senator DURBIN. Thanks a lot, Mr. Chairman.

And following up on that, I am told that one of the reasons that pilots do not get enough flying hours is because of the shortfall in aircraft maintainers; 3,400 aircraft maintainers short of what you need.

As a result, the Air Force cannot guarantee the sorties needed to fully train its aircrews. This budget includes 1,000 new maintainer positions. It takes 5 to 7 years to train someone to be an aircraft maintainer.

The situation, the way I see it, gets a little more complex when you look at your recruitment, although you are meeting targets, it appears, for active duty and for Air Reserve. Well, I know there is an issue with pilots in the Air Reserve, which we had discussed.

General recruiting, you are requesting doubling the amount that is allocated for advertising and recruitment, which is a signal to me that you need to put in more resources to get the men and women into the Air Force that have the potential of filling these important positions like maintainers and such.

Then I go through the analysis of who is eligible, who could be recruited. It turns out fewer than a third of those who apply can be accepted. Others are disqualified for a variety of reasons; 71 percent are disqualified. Medical issues are a big part of this, the largest disqualifier being overweight, 17 percent; psychiatric issues, 13

percent; skin and allergy, 10 percent; lung and chest including asthma, 6½ percent.

The next is 17 percent eliminated because they do not score well, either their educational achievement or their scores; then comes conduct violations. And then comes a long list that we have learned of things that used to disqualify you, which now no longer disqualify you for service in the Air Force. So it appears that standards are at least being changed, if not weakened and diminished.

So I look at the overall picture here in terms of readiness, and it looks like we are quite a few steps away from where we want to be, and our first problem turns out to be the quality of recruits. The availability of quality recruits.

I know you want the best, and we do too, to protect our Nation, and to serve in the Air Force, and our military service.

I step back from this and say, it turns out that part of the problem with getting readiness into the military is getting readiness into the American population. Our young people are not prepared to even serve their Nation here by your standards that you have established.

And as we cutback in areas like healthcare, which we are now debating in the Senate, as we cutback in areas like educational investment, it diminishes the likelihood we will have a pool of quality recruits in the future.

So I wish you would comment on that, either one or both of you, please.

Secretary WILSON. Senator, I just came to the Air Force from being a President of a university in South Dakota, and talent is in demand at every university, and in the United States Air Force as well.

The Air Force is a highly technical service and we try to recruit the best we possibly can. They have to be worldwide deployable and all of those kinds of things.

Fortunately, the Air Force has never once in its history ever had to draft anyone because we have always had enough willing volunteers, who are highly qualified, who want to serve in the United States Air Force, and we are proud of that.

We do want the best and brightest, and we are increasing the number of people we are taking in, in order to increase the size of the Force. But as they get trained, they become more and more valuable. That is true in cyber. It is true in maintenance. It is true in pilots. So we have highly capable, qualified folks with a lot of experience.

The issue with readiness is that if I lose a maintainer on the F-22 at a 10-year point, I cannot just hire a maintainer with 10 years of experience on the F-22. We have to grow them.

One of the biggest challenges is actually absorbing those young people into a maintenance squadron, and giving them the mentorship, and the time on task with a more senior airman to teach them the ropes.

So it is the absorption problem that is actually one of our biggest challenges.

Senator DURBIN. But you are asking to double the advertizing and recruiting budget for the Air Force?

Secretary WILSON. I am not sure it is double, but I can check that for you.

Senator DURBIN. I think it is a pretty substantial increase.

Senator COCHRAN. The time of the Senator has expired.

Senator DURBIN. Thank you.

Senator COCHRAN. The distinguished Senator from Alabama is recognized.

Senator SHELBY. Thank you, Mr. Chairman.

General Goldfein, I will start with you.

I believe it is very critical that we deliver the fifth generation fighter to maintain our air superiority. It is also important for the Air Force to train, as we have been talking about, this next generation of pilots for these advanced aircraft, as well as pilots in general.

I understand that you are in the middle of competition to replace the current fleet of the T-37 aircraft that are, on average, 44 years old with advanced jet trainers.

Given your experience, probably both of you, of flying the T-37, can you explain the importance to the committee of having a new trainer as soon as possible? What will it mean to us?

General GOLDFEIN. Yes, sir.

The reality is that as we step into, now, the new fifth generation airplanes having grown up in the fourth generation airplanes having flown the F-16 and the F-117, the transition from training into an operational aircraft, you could actually train to a number of the skills that would be then immediately transferrable from a T-38 into an F-16.

To go from a T-38 into an F-22 and an F-35, and to be able to understand information fusion, and how it all comes together because actually you could argue that the "F" designator for the F-22 and F-35 is actually old school think. It is no longer an F-22 and an F-35. It is an FIRB. It does command and control. It is a fusion machine. It has changed the way we do business.

So from that perspective, you can see the leap from a 48 year old T-38 that we are currently flying into a fifth generation airplane. We need to bring that new trainer on so that we can actually bring some of those skills that are required to operate fifth generation into the training business.

Senator SHELBY. How crucial is it?

General GOLDFEIN. It is absolutely crucial.

And so for us, as you take a look at how we are bringing on the new T-X—which is currently in source selection as we speak—we are trying to bring that on as fast as we possibly can to be able to get that high level training.

Senator SHELBY. And what does that mean "as fast as you can"? I know you have to make reliable decisions and a wise decision. Do you have any timeline?

Secretary WILSON. Sir.

Senator SHELBY. Yes, Ma'am.

Secretary WILSON. Senator, the request for proposal went out in December.

Senator SHELBY. Okay.

Secretary WILSON. And the proposals are now in. We are evaluating those proposals.

Senator SHELBY. Okay.

Secretary WILSON. And we expect to make a decision in the first quarter of fiscal year 2018.

Senator SHELBY. Regarding the F-35 basing decisions, you are very familiar with. Secretary Wilson, we appreciate recently the process selection group visited the 187th Fighter Wing in Montgomery, Alabama. I think they had a good site visit.

Would you provide a current update of the selection process, where you are?

Secretary WILSON. Senator, we have what is called a strategic basing process. We set criteria and we go out and narrow that down every time we do a basing decision.

I actually intentionally do not touch that process at all until they are ready to make a presentation to me and the Chief on their evaluation of the bases and the options. I do that intentionally.

I think that it is important for the decision to be made based on the criteria that we briefed to you all, and to be very transparent, and analytical about it. And then make that decision based on the needs of the service and the country with no thumbs on the scale.

So I actually do not even look until they are ready to brief.

Senator SHELBY. Space launch reliability, both of you are very familiar with all of this.

I believe that maintaining our access to space while quickly and safely reducing our reliance on Russian-made rocket engines has been a priority of this committee working with the Air Force.

I know the Air Force shares that goal. I believe we should avoid and not repeat the mistakes of the late 1980's and 1990's when multiple launch failures cost the U.S. taxpayer over \$3 billion, as well as the benefits of three national security satellites including a critical communications satellite that was not replaced for 11 years.

Secretary Wilson, as you looked at the ways that our space infrastructure enhances our war fighting capabilities, can you describe the importance of launch schedule reliability?

Secretary WILSON. Senator, in the 1990's, we had a terrible situation where we were basically losing our access to space because a commercial provider and the commercial system just were not there.

We now have the Falcon 9, which is the SpaceX craft which is certified. Of course, ULA Vulcan is also certified. We are in the process of certifying the Falcon Heavy. We have Orbital ATK with its next generation rocket. So competition has helped to reduce the cost.

In this budget, there are three additional launches that we fund, and we have had competition for the last two GPS satellite launches, and there is one more award that we expect to make here this summer.

So we are in a much better place than we were in the 1990's. I think all of us are cautious about it. There is a lot of innovation going on out there in the private sector. It is very interesting to us, but we are also cautious that we need to keep this for the long term.

Senator SHELBY. This committee has provided accelerated funding, millions for several years, to assist the Air Force in developing an engine to replace the Russian-made RD-180.

Where are we there? I know you cannot push developments too fast sometimes, but are we making progress, General? Do you want to?

General GOLDFEIN. Yes, sir.

So the direction we received from Congress was actually to do three things through a transition period.

First was to ensure that we maintained assured access to space for all of our payloads and all of the orbits that we need to service.

The second directive was that we were told to emerge at the end of a transition period with at least two domestic launch service providers.

And the third directive that we heard loud and clear was as soon as possible get off the RD-180 engine.

So we are in that transition period now and on track to be able to achieve what Congress told us to do in 2022. So we are actually not in the business of building a rocket engine to replace the RD-180. What we are in the business of doing is to work to procure launch services.

And so right now, we are actually seeing quite a few successes based on the competitive market between the United Launch Alliance, which as the Secretary said, was stood up based on coming out of the 1990's and a pretty tragic period in the space business.

Senator SHELBY. Are you talking about another 2 years, or 3 years, or what?

General GOLDFEIN. Yes, sir. About another 2 to 3 years.

Senator SHELBY. You think you will get there, do you not?

General GOLDFEIN. Right, now, we are on track to get there.

Senator SHELBY. Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator. The time of the Senator has expired.

May I recognize the distinguished senator from Kansas? Mr. Moran.

KC-46A

Senator MORAN. Chairman, thank you very much.

Secretary Wilson, welcome to your debut appearance before our subcommittee. Senator Blunt and I were thinking back to you, and I, and he being classmates. And we reached a quick conclusion that you are smarter than either one of us, and a star in our class, and have led a great life in public service. We are honored to have you here in front of our committee and to be the Secretary of the Air Force.

Let me direct your attention, Madam Secretary, to the KC-46A. Leadership at McConnell tells me that they will be ready for the arrival of the tanker later this year. They are nearing completion, if not already complete, of the MILCON investment that was made to prepare for the arrival of the tankers. An investment totaling \$277.5 million since the decision was made.

Unfortunately, there have been notable delays in the development of the KC-46A, but I understand we are getting closer to determining a final delivery date.

I wondered if you could tell me what that is?

Secretary WILSON. Thank you, Senator.

We just did a schedule review with the contractor. They still believe that they are going to be able to deliver the airplane in December, which is a couple of months later than when we base-lined this program, but they still think they can do it in December.

The Air Force thinks that is pretty ambitious and it is all about the test schedule for FAA certification. That does not always go quite as quickly as, perhaps, they have on their schedule. But the good news is that it is about the test schedule. It is not about production.

So once the airplane is certified as safe by the FAA, it is not as though there is a huge projection or technology problem. It is really about tests and satisfying the FAA airworthiness certification.

We think that it may be into the spring or early next year, and it all depends on the FAA's certification testing timeline.

We probably will know late this summer whether they are on track with testing or not, and whether they are meeting the timelines that they have in their own schedule.

LEVERAGING EXISTING ASSETS: CYBER TEAMS

Senator MORAN. Thank you very much. I reiterate my invitation for you to join us in Wichita when that arrival occurs.

Let me also highlight at McConnell, to you, General Goldfein the 184th Intelligence Wing. You talk a lot about cyber and I think, very appropriately, it is a huge priority.

We have an asset, the Kansas National Guard 184th Intelligence Wing. It is part of the Wing that is the 177th Aggressor Squadron. It is a Red Teaming threat simulation and it is the only NSA certified Red Team in the Reserve component.

My question, we have had this conversation before as well, but I would ask you, as you develop the 39 cyber teams, how does the Air Force intend to leverage the existing assets? Are you considering co-locating active and reserve components?

General GOLDFEIN. Yes, sir. And we actually already are. If you take a look at the make up of the cyber mission teams as we grow to the 39 teams, several of those teams are actually Guard and Reserve.

What is interesting and I learned this when I was an Air Component Commander Forward, that some of the best intelligence analysis that I got as a Commander Forward actually came from my Air National Guard units.

Because what I found was that they were not moving from location to location which is typical for an active duty. They were in the same location and they were able to focus on the same area. And so the quality of the intelligence they were able to provide was significant.

And so, we have leveraged that very clearly as we built up the cyber mission teams and the cyber protection teams, and you will see them scattered throughout as we go forward.

Senator MORAN. Thank you for that answer.

SCORPION JET

My final question, in the time I have allotted, is you are both familiar with the Scorpion, the low cost, light attack platform that the Air Force is currently conducting an airworthiness assessment for, and it is also participating in the upcoming Light Attack Capabilities Experimentation Campaign that you are conducting. I was recently in the backseat of a Scorpion across the skies of Kansas.

It is my hope that this Experimentation Campaign will yield a similar success that exercises such as Combat Dragon II for SOCOM, as well as CENTCOM's Proof of Concept deployment, reaped the benefits to the special operators and was a cost saving success in Iraq as well.

The platform can offer the Air Force, as well as the rest of the Department of Defense, significant cost savings in modernizing our forces with weapon systems that give us critical defense superiority that we need to maintain.

COMBAT DRAGON II EXERCISES

My question, General Goldfein, is you have been supportive of this platform in the past, seeing the benefits to the war fighter and to the taxpayer.

Can you explain your observations from the Combat Dragon II exercises? And, what else might you need to move the Air Force in procuring this light attack jet?

General GOLDFEIN. Yes, thanks, sir.

Actually, I was quite involved in both Combat Dragon I and Combat Dragon II.

The idea behind this experiment that we are doing, actually is taking the authorities that we have been given, the acquisition authorities, and doing more experimentation, so we can actually speed up the way we look at potential acquisition.

But it is important to know that this experiment is actually not a contest. This is an experiment where we have gone to industry and said, "Show us what you have. Let us see what you have that is commercial, off the shelf that is shovel ready that we can put into the fight today. Let us take a look at it and see whether there is something there."

As important to me as the hardware that we are looking at is a parallel discussion that we are having about a network that is coalition friendly that we can use, that we can actually attach these various platforms to, so that we can actually increase the speed of operations going forward.

So I am pretty excited about the experiment. I am going to go out there as well and fly in some of the aircraft. We are doing this, this summer in New Mexico. I am looking forward to seeing what industry has.

Senator MORAN. Thank you.

Thank you, Mr. Chairman.

Senator COCHRAN. The time of the Senator has expired.

The Chair is undecided about whom to recognize next. We have the distinguished Senator from Montana and the distinguished Senator from Missouri.

Who seeks recognition?

Senator TESTER. I would, if I could. Senator Blunt, I was here actually before anybody else was here besides Senator Shelby, if I could. So thank you.

Senator COCHRAN. The Senator is recognized.

Senator TESTER. I appreciate it, Chairman.

Senator COCHRAN. Up to 5 minutes.

Senator TESTER. Thank you, very much and thank you, Senator Blunt.

ASSETS IN SYRIA

First of all, it is great to have you both here. Thank you. Thank you for your service, it goes without saying.

General Goldfein, we have seen what is going on in Syria and it does not look like things are getting better there. It looks like it is getting worse.

Could you give me an idea of what kind of assets are deployed there and what is our current role?

General GOLDFEIN. We actually have six wings, 261 aircraft that are currently deployed and engaged in the fight, which is fairly significant. Just to put it in perspective, General Harrigian commands the twelfth largest Air Force in the world.

Senator TESTER. Yes.

General GOLDFEIN. Going forward and we are doing everything from command and control, to personnel recovery, to help the tankers that are going on. About 115 missions a day that we are dropping ordinance on the enemy.

SITUATION IN SYRIA

Senator TESTER. And so yesterday, a Navy pilot shot down a Syrian fighter and yesterday the Russian Government responded by saying that the U.S. and coalition jets in Syrian airspace would be presumed as targets.

This is for either one of you. What is being done to deescalate the situation?

General GOLDFEIN. Right now, this is obviously being handled in diplomatic lanes, so a couple of levels.

First of all, I know Secretary Tillerson is heavily engaged in working this diplomatically with the Russians.

Senator TESTER. Okay.

General GOLDFEIN. General Dunford has an open line that he continually talks to his counterpart, General Gerasimov, and they talk routinely.

Then at the CAOC (Combined Air and Space Operations Center), at the operations center where Lieutenant General Harrigian is, there is actually a line that we have with the Russians that is a de-confliction line, and that line remains open, and we remain in conversation with them.

So our hope, of course, is that we return to a little bit better sense of normalcy and we continue to keep the dialogue open.

Senator TESTER. Well, thank you for that. One of the things that truly does scare me about what goes on in this world right now is that Putin is a bad guy. And I am being generous with that statement.

What has transpired with the actions with NATO (North Atlantic Treaty Organization) and other of our allies is, I think we have, our President has at least empowered him. I think that is very, very dangerous and I think we are seeing the fruits of that right now. It is up to you guys to try to fix it. And so, I appreciate your work.

AUDIT READINESS

The Air Force is audit-ready today. Is it or is it close? Where are we at?

Secretary WILSON. Senator, about 50 percent of our squadrons are ready for all of the missions assigned to them.

Senator TESTER. Okay. The DOD's top financial advisor said that the entire Defense Department would be ready for an audit in September and the Air Force is close to that?

Secretary WILSON. Senator, we are ready to move from preseason to the real season.

But I think the other thing is that our first time through this and our second and third. Most of you who have ever dealt with audits know that we are going to have audit findings.

Senator TESTER. That is right.

Secretary WILSON. That is the point is that you have the audit findings and then you continually get better and address those things.

Senator TESTER. I just want to say this. Thank you.

The fact that the Defense Department has not been audited in God knows how long, and the fact that you have not been audited, and the fact that you are in a position now to get audited. Thank you.

Whoever is responsible for that needs big kudos because we cannot do oversight if we do not have audits, quite frankly and so, thanks.

HUEY REPLACEMENT

I want to talk a little bit about the Huey replacement as it applies to Malmstrom Air Force Base. We talked about this when you were in my office, Madam Secretary. Is it going to happen by 2020?

Secretary WILSON. Senator, this budget has about \$108 million for the beginning of the competition for replacing the UH-1N Huey. We expect it to be fielded in 2020–2021.

Senator TESTER. Is there anything we can do to expedite it to 2019? This is kind of like a negotiation. Okay?

Secretary WILSON. Senator, here is the reality.

Senator TESTER. Yes.

Secretary WILSON. The Air Force went out to look at whether we could buy a helicopter off of any of the lines that are currently producing helicopters for other things.

Every single one of the manufacturers said, "Look. To meet all your requirements, we would have to do a modification."

Senator TESTER. Right.

Secretary WILSON. All of the modifications were slightly different for each company.

Senator TESTER. Okay.

Secretary WILSON. So we really did have to step back and do a competitive request for proposal.

Senator TESTER. Okay.

Secretary WILSON. And we are in the midst of that now.

Senator TESTER. Right now, the Montana National Guard has C-130 mission. They do their training in Washington State. We have the best airspace in the country—some would argue with me on that—right east of Great Falls, Montana Malmstrom Air Force Base.

Is there any possibility of moving that training mission, not only for the Montana Air Guard, but for everybody to that incredible airspace that we have?

General GOLDFEIN. Sir, we will definitely take a look at it. I will tell you, when it comes to restoring the runway at Malmstrom.

Senator TESTER. Yes.

General GOLDFEIN. It is something that we will actually take a look at here. Here is the challenge we face on that.

Senator TESTER. Yes.

General GOLDFEIN. Just so I am very clear and that is we, in this budget based on all the priorities that we have had to try to meet, we were able to get to about a 90-year recap rate on facilities that we built for about 50 years.

Senator TESTER. Yes, I got you.

General GOLDFEIN. So our challenge is we look at the infrastructure and where we put infrastructure investment.

Senator TESTER. Yes.

General GOLDFEIN. I cannot look you in the eye and tell you that Malmstrom restoring that runway is going to make the cut, but we will definitely look at it.

Senator TESTER. I would not want you to, but thank you very much.

General GOLDFEIN. Sir, can I?

Senator COCHRAN. The time of the Senator has expired.

The Senator from Missouri is recognized.

Senator BLUNT. Thank you, Chairman.

I was just about to say the advantage of going last is you have whatever time the chairman will give you, but I hate it that that last question did not get answered.

Maybe we can figure out how to get that in my questions, but certainly it can be submitted for the record and we will all look at that.

SITUATION IN QATAR

I have three questions I am going to try to get to pretty quickly.

And again, Secretary Wilson, I will join Senator Moran in saying how glad we are to see you here and of course, glad also to see the General here.

For either one of you that wants to deal with this. I am sure you have been following this situation in Qatar.

Four of our regional allies, our partners in the region, have changed their relationship over concerns about a number of issues including Qatar's relations with Iran, support of the Muslim Brotherhood, and financing extremists, and their stated reasons to do

what they have done. Clearly the airbase is very important to us and very important in the current fight against ISIS.

Do you have concerns about our ability to continue to use that airbase to maintain that base to do whatever we need to do to continue to have access there?

Secretary, I want you to start.

Secretary WILSON. Senator, the airbase, Al Udeid Air Base is fully operational and operations continue out of it as normal.

The resolution in the Gulf Cooperation Council, that effort is being, of course, led by the Secretary of State as a diplomatic effort.

Senator BLUNT. General.

General GOLDFEIN. Yes, sir.

I actually lived at Al Udeid Air Base from 2011 to 2013 as the Commander there.

Senator BLUNT. Yes.

General GOLDFEIN. So I know the region quite well.

To say it does not concern us, we are concerned and we are staying closely plugged in.

I will tell you that I talk to the Commander there routinely, and so far there has been no impact on our operations on the base or for our families who live off base. Secretary Tillerson, I know, is working this extremely hard and the Secretary of Defense is working this as well.

So we have not seen any impact on our operations and right now we are not projecting any.

Senator BLUNT. Well, thank you for that.

PROPERTY TRANSFER

Senator Cochran heard me ask this same question to Secretary Mattis the other day. We are trying to transfer some property, the NGA (National Geospatial-Intelligence Agency) transfer in the city of St. Louis.

I am sympathetic with the fact that up until the actual time of transfer, everybody thought that transfer was going to be with either the Corps or the Army. And then suddenly it was determined, for reasons we accepted at the time, that the Air Force was the best future owner of that property for National Geospatial West.

I think we have missed two deadlines on this already. It was supposed to be done in April and then it was supposed to be done in May. I am hoping we are not going to miss a third deadline.

I am told that the Air Force has attorneys working round the clock on this. I am doubtful that that is the case, but however many attorneys need to work on this to get it done.

Can we get that done this month?

Secretary WILSON. Senator, I pulsed the system to get some facts for you on this one.

The Air Force has sent back to the City and to the holding company that is involved in the environmental cleanup of the site of a signature ready agreement. It usually does take about 9 to 12 months to do a property transfer like this particularly when there is some environmental remediation that has to be done before the actual transfer. So there are actually two steps to this transfer.

I think the final issues are apparently the indemnification for contamination. And in the agreement that we signed in January,

the Air Force signed with the City, it was indemnification for any contamination that was there before we take over the site.

That has apparently become something of an issue. I think we may need to figure out a way to resolve that and give some kind of a term in place there because it now appears to be a different situation from the City's point of view.

This is a site that, as you know, is a brownfield site. It used to have a battery manufacturer there, and a junkyard, and a dry-cleaner, and those kinds of things. And the Air Force has to operate under Federal rules for environmental protection. So we just want to make sure that we get that clarified upfront.

Senator BLUNT. Well, I think that the reason this normally can be done in 6 to 12 months is we had a year to talk to the Government about this, and the standard was clearly understood until the owner was determined to be a different owner.

I think this is a problem that you can work out. This is a substantial project. If we lose a year on it because we cannot get this one thing worked out in the last 90 days, I would be very disappointed.

Secretary WILSON. Senator, I am aware of the issue, and I want to get it done, and get moving on it. It is an important capability for the country.

When the Army said they did not want to do it, the Air Force did step in, in December and we got the letter of intent in January trying to work these things out with our installations and environment folks, and be good stewards.

But I think we can probably work this one out and we will just kind of keep the attention on it.

Senator BLUNT. Well, sooner is better than later.

Senator COCHRAN. The Senator's time has expired.

Senator BLUNT. Thank you, Chairman.

Senator COCHRAN. The Chair recognizes the distinguished Senator from Montana, Mr. Daines.

Senator DAINES. Thank you, Mr. Chairman.

Secretary Wilson, General Goldfein, thank you both for appearing before this committee this morning.

The Air Force prides itself on being the world's preeminent force in air, space, and cyberspace. To claim such a bold title requires a robust capacity to deliver.

In my home State of Montana, we are very proud to substantiate that claim with one-third of our Nation's ICBM's (intercontinental ballistic missile) operated by the men and women of the 341st Missile Wing.

This critical global strike mission is supported daily by the professionals of the 819th RED HORSE Squadron at Malmstrom Air Force Base and complemented by the 120th Airlift Wing of the Montana National Guard.

We are also grateful that we host most of the airspace over the 18 million acre Powder River Training Complex, which provides large scale exercise training for the B-1 Lancers of the 38th Bomb Wing. When I quote numbers like 18 million acres, everybody here will be impressed, but perhaps Senator Murkowski, who would say, "Well, then there is Alaska."

As the son of a Marine, I value the service of every man and woman who serves our Nation's flag, and it is a great honor for me to represent them here in Congress.

Secretary Wilson, I invite you to join me on a visit to Malmstrom at some point, sooner being better, to see firsthand truly the incredible work these men and women do to keep us safe.

UH-1 REPLACEMENT

Secretary Wilson, as you and I have discussed, I am concerned by the ongoing delays to replace the Vietnam-era UH-1N helicopters that support our ICBM security forces.

In May, Congress appropriated \$75 million to expedite a suitable replacement, yet under the current acquisition strategy, it looks like our airmen will not receive their first aircraft now until 2021.

Secretary Wilson, can you assure me that this effort will have the utmost sense of urgency moving forward and that you will commit to keep me apprised of the UH-1 replacement as it moves forward?

Secretary WILSON. Senator, this budget that we have proposed this year has about \$108 million for the UH-1 replacement.

The initial strategy that the Air Force pursued was to try to go out and tag on an order to an existing line of helicopter production. We went in to all of the providers of helicopters in the United States. They each said that they did not have something that met all of the requirements. Each one would have to have some modification and every one was different as far as the modifications went.

So we had to step back, and do a full and open competition, which we are in the midst of now. But our intention is to field those replacements for the UH-1 both for the fleet in supporting the nuclear mission, but also the UH-1's Air Force wide and to do that by 2020 and 2021.

Senator DAINES. Thank you for the update. We will stay in contact. Appreciate it.

In addition to the UH-1, the modernization of our aging Minuteman III missile, which has been in service for almost 50 years, and the supporting infrastructure has to be a top priority.

I am pleased the President's budget makes important investments in these areas. In fact, some military construction efforts at Malmstrom in Great Falls are literally underway as we speak.

GROUND-BASED STRATEGIC DETERRENT

My question, Secretary Wilson, will you commit to keep me apprised of the developments of the Ground-Based Strategic Deterrent?

Secretary WILSON. Senator, we certainly will, and we are committed to upgrading and modernizing the ground-based nuclear deterrents, and I might ask the Chief to comment on this one as well.

General GOLDFEIN. Yes, sir.

The reality is that we built this system in the 1960's. We upgraded it one time in the 1980's. This is the first time now we are going back.

When you think about it, it is more than just the missile; it is the entire system. It is the launch control facilities. It is the command and control that goes into it.

As I said in my opening statement, on our worst day as a Nation, we have got to ensure that the Commander-in-Chief is where he needs to be and he is connected to a ready force.

It is important just for perspective to take a look at this. Most people do not know what this is. This is an 8½ inch floppy disk and this is being used today to do nuclear command and control.

So, it is absolutely time to upgrade and we appreciate your support to do so.

Senator DAINES. Yes, thank you.

Sometimes it is really helpful to get out and get up close to the current infrastructure and the needs for modernization. I spent time there certainly in Montana with the airman. It is so old that the cyber risk is not quite as great because it is not connected.

You drive by Alpha-06 there, the ace-in-the-hole as they called it, that President Kennedy used in the Cuban Missile Crisis. You drive right by there when you leave Great Falls, Montana heading out towards where a lot of our silos are. Just a reminder of how old all this is. It was Kennedy-Khrushchev days when we were standing up our first missiles out there in Montana.

Well, I am out of time. Thank you. We will submit some more questions for the record.

But thank you again for your service and your very thoughtful and bold leadership in these troubled times in the world.

Thank you.

Senator COCHRAN. The time of the Senator has expired.

The distinguished Senator from Alaska is recognized.

Senator MURKOWSKI. Thank you, Mr. Chairman.

Thank you both for your leadership.

I would also like to give a little shout out. Sitting behind General Goldfein is Major General James Martin. At one time, General Martin was known as Colonel Martin. He was Commander of the 354th Mission Support Group at Eielson. I understand retirement is in the works, but thank you for your service as well.

It is just a reminder that the path to Air Force greatness often runs straight through Alaska and we appreciate that.

EIELSON BEDDOWN OF F-35A

General Goldfein, I would like to ask a question about the Eielson beddown of the two squadrons of F-35A aircraft that are anticipated in the 2021 timeframe. I am frequently asked whether or not the funds that we are appropriating in a particular year are going to fund the F-35's that are headed to Eielson.

Can you give me any insight into how the dollars we appropriate for the F-35 in the 2017 dollars and the 2018 dollars, will we see those going towards Eielson? And can you comment on whether or not the purchase of any additional F-35's as proposed in the unfunded priority list, whether perhaps they also will benefit the Eielson beddown?

General GOLDFEIN. Yes, Ma'am.

When you take a look at our MILCON, we actually set up in three priorities. First priority, we funded is combatant commander

requirements, and for those combatant commanders who were the executive agent, we had to get to their requirements.

Second priority for us was new mission beddown. So for F-35, KC-46 we put that money in the program to move forward.

Our third priority was getting at our worst particular facilities going forward.

Just to give you a sense at Eielson, we have a weapons intel facility that is funded, a fuel truck shelter, a satellite dining facility that is all coming in, a conventional munitions facility. All those are on track.

Senator MURKOWSKI. Good.

General GOLDFEIN. And so right now, we are on glide path to be able to meet that 2020 beddown for bringing the F-35's back.

If we were able to get more F-35's in the unfunded list as required, we would look at where we would spread those relative to getting the greatest combat capability, the fastest for the force.

HOUSING AT EIELSON

Senator MURKOWSKI. Got it. Well, I appreciate that.

There are oftentimes little rumors out there, little rumbles that things might be slowed down. And of course, this causes concerns from a lot of different levels.

I met yesterday with several Alaskan leaders that are focused on how we will meet the needs for housing with the additional activity there at Eielson. The concern that when you are looking for some 850 new housing units to house more than the 3,000 service members and their dependents that we are expected to see.

The community wants to get moving. They need to formulate a strategy for getting those units constructed. That, of course, requires investment.

One concern that has been expressed to me is that private investors will be reluctant to build if they think that they may face future competition from the construction of additional privatized housing there on Eielson.

So again, we had a pretty lengthy meeting yesterday. Their very specific ask was an opportunity for the local officials to sit down with the Air Force folks, the housing privatization folks, to determine whether or not there can be commitments made to the private investor side.

Secretary WILSON. Senator, I am very happy to sit down with the local community.

General Martin and I were talking in the car on the way over here. One of the wonderful things about our bases that are in communities that are smaller is the tremendous support that we get from the community and the partnership that exists there. It is true at Eielson. It is true at a lot of our other bases that are in rural America.

It really is a partnership and I am very happy to sit down.

Senator MURKOWSKI. Well, I would appreciate that. I know that they would. We would certainly welcome you to Alaska. Love to host you there in the near future.

As Senator Daines mentioned, we have some pretty awesome training area to show off. I think you know that, but seeing it for yourself firsthand is greatly appreciated.

Again, thank you both for your leadership and we look forward to working with you.

Thank you, Mr. Chairman.

Chairman COCHRAN. Thank you very much.

I understand that a Senator is on his way to the hearing room. Awaiting his arrival, let me ask this question of Secretary Wilson and General Goldfein.

LEVEL OF MUNITIONS

The Air Force continues to expend large amounts of munitions in training and operations all over the world. Does this budget request adequately replenish your inventory levels?

General GOLDFEIN. Yes, you captured it exactly right. We are dropping an incredible number of munitions; over 80,000 munitions just since 2014 just to put it in perspective.

We are working with industry and what you will see in this budget is we have actually funded to the maximum capacity that industry can produce in our preferred munitions that we are using today in the fight and to keep those stockpiles at the right level. We move munitions from other areas to ensure that we can continue the fight at the pace that we require.

There is an aggressive approach that we have right now with industry to see what they can increase in terms of their capacity because right now, we are not replenishing at the rate that we are actually dropping munitions.

So we are continuing to manage it. We are able to keep the pace on the enemy where we need to, but this is something that this budget starts to get at. And then we are continuing to work on it for the future.

Secretary WILSON. Senator, the only thing I would add is that it is something that we are working very closely with our industry partners on. It is one of the reasons why sequester, continuing resolutions, and just getting to budget stability matters.

If you are a munitions manufacturer, what really matters is that stable production, just steady production over time, and the surges and gaps are a real problem.

And so it is one of the things that can help us tremendously is not only moving beyond the Budget Control Act, but getting some predictability and stability.

Senator COCHRAN. The Senator from New Mexico, Mr. Udall.

TRAINING MISSION AT HOLLOMAN

Senator UDALL. Thank you very much, Chairman Cochran. Really appreciate being here with you today.

Always it is great to see Secretary Wilson. I believe this is the first time she is before our committee. And so, welcome and also to your Chief of Staff, General Goldfein.

Secretary Wilson, we are experiencing a major pilot shortfall in the Air Force. Not only do we need more pilots in the training pipeline, but we also need to do a better job retaining the pilots that we have.

Given the struggle to train and retain pilots, do you agree that the additional F-16's for the growing training mission at Holloman can be a key part of the solution to this issue?

Secretary WILSON. Senator, the increase in training at Holloman, at this point, is temporary. We would do a strategic basing review for any permanent placement of a training unit.

But we expect those aircraft, the F-16s, to be at Holloman in late summer of this year.

Chief, do you want to add anything to that?

General GOLDFEIN. Well, sir, I just want to say, having been the Wing Commander at Holloman and knowing not only the great support of the community there, but also the incredible airspace that we enjoy there. Holloman was an obvious choice to be able to get at increasing production as fast as we possibly could.

It not only had the capacity, but the three runways there, the range space, all the things that we had available allowed us to move very quickly.

But as the Secretary said, this is the interim solution and then we will go through a new process with the Secretary on a final solution. But it is very helpful and we appreciate the support Holloman gives us every day.

Senator UDALL. Well, thank you very much for that.

Just a couple of final observations, as the Air Force works on a final basing decision, first I think that the training pipeline would be negatively impacted if those F-16s were then to be suddenly moved again yet to another location.

Second, I would stress the importance of de-conflicting airspace with Wind Sands Missile Range and working with the Army to ensure that the Air Force has access to this airspace as needed for training. Good progress has really been made and I hope the Air Force and Army continue to make this a priority.

IMPORTANCE OF R&D AND PRODUCTION

In an interview with "Defense News," you stated that research and development would be a priority when you took the reigns at the Air Force and that you are no stranger to the importance of the Air Force research labs.

In your opinion, how important is it that we find ways to rapidly move technology from R and D to production, but while also improving tech transfer opportunities in the private sector? What ways does your proposed budget support R and D efforts? And how can the committee work to increase tech transfer opportunities with the Air Force?

Secretary WILSON. Senator, this budget does increase research and development, but I would have to say that it is more on the development end. So it is testing actual systems.

I think long term, we need to look at the early stage research for path breaking technologies. That is not only at our laboratories, but at other national laboratories, and also at universities, and in industry.

Some of the path breaking innovations that we are benefitting from today were not developed by Air Force research laboratories. In fact, stealth, I think, came to us initially from industry.

So there are a lot of different ways that innovation can spin on to the Air Force in addition to spinning out from the Air Force.

I think that takes a real commitment to partnerships and real effort to identify the most important research vectors. Over the

next year, I think we are going to be digging into that in a serious way.

Senator UDALL. Great.

The Air Force Research Lab at Kirtland Air Force Base also plays an important role monitoring our Nation's space assets, a domain that is increasingly competitive and is definitely contested.

But do you agree that funding assets such as the Starfire Optical Range at Kirtland improve our ability to protect our assets? While some information may be classified, can you tell the committee how our space situational awareness capabilities compare to that of our near-peer competitors Russia and China?

I recently saw an article my staff gave me that you wrote on Air Force in space.

Secretary WILSON. Sir, the Starfire Optical Range does provide capability as part of a whole system of space situational awareness. One of the things that is really changing is—

The Air Force has always been the service that has kept a catalog for the world for commercial providers of satellite services as well as all of the military services of what is up there and what orbit it is on.

But it is no longer good enough to just keep a catalog. We need near real time situational awareness of where things are, and where they are moving to, and very clear characterization of what the capabilities are. While we have good situational awareness, this budget advances that even further.

I would also say, though, that we expect space to be a contested domain. Our adversaries are moving forward very quickly and they see that we are vulnerable in space. We need to anticipate that any future conflict will involve conflict in space.

Chief, is there anything you want to add to that?

General GOLDFEIN. No, just to offer to you that I would love the opportunity in a closed session, or perhaps in a classified session, to brief you, or any of the members of this committee, on what our adversaries are doing to invest in taking away our advantages. And it is eye opening.

Senator UDALL [presiding]. Well that, I think, would be a very, very helpful briefing. I will talk to the chairman and the ranking member and see if we cannot do that. We really appreciate that offer.

AIRCRAFT FOR AIR NATIONAL GUARD

Just one final question, General Goldfein. I know you agree that the Guard plays a vital role in defending the homeland. One of their capstone principles is every State has a unit equipped flying mission.

However, the New Mexico Air Guard currently does not own aircraft. General Lengyel, Chief of the National Guard Bureau, responded that the plan to ensure that New Mexico will be unit equipped with a suitable and viable mission is not currently budgeted.

I think there are two options to consider to solve this problem and avoid the budget issues.

First, the 150th Special Operations Wing has been a major contributor to the CV-22 mission at Kirtland. Assigning the CV-22

mission to the ANG (Air National Guard) would be a no-cost option to meeting the capstone principle while also providing stability and long term experience.

There is another opportunity at Holloman Air Force Base establishing an active association with the F-16 FTU allows the Air Guard to own the aircraft while also growing the training pipeline in helping to solve the major pilot shortfall the Air Force is experiencing.

Secretary Wilson and General Goldfein, will the Air Force look at the viability of allowing the 150th to take on one of these missions and provide me with the details when you have completed your assessment?

General GOLDFEIN. Sir, we will absolutely take a look at that and get back to you.

If I could, just return to an important point that the Secretary made and has been a central theme throughout, which is the fact that this Air Force is just far too small for what the Nation requires across the entire active Guard and Reserve.

And by the way, sir, I would tell you that we could not accomplish the missions that we are accomplishing today without the Air National Guard. I mean, you walk into a C-17 and you walk into the cockpit and ask, "Who is active? Who is Guard and Reserve?" And very often all three hands go up. We are that integrated.

So if you take a look at the size of the Air Force today based on the missions that we are responsible for, we have got to grow.

Then just to put a fine point on a comment that Chairman Dunford made to this committee under his testimony that I absolutely support as a Joint Chief.

We enjoy a competitive advantage today against our adversaries. But on our current path, as he stated, in 5 years we will not have that competitive advantage that we enjoy today.

So getting beyond sequester and getting back into stable budgets are absolutely essential for this Air Force if we are going to do the missions that we are required to perform to the level that the Nation expects.

Senator UDALL. Madam Secretary, anything additional on that?

Secretary WILSON. Senator, the only thing I would add would be something about what we call concurrent fielding. The Air Force always, the Guard has been one of the strongest elements of the Air Force, and the Reserve as well because they are so much more experienced.

As you well know, I have kind of a close affiliation and affection for the TACO's. We would all like to see them have a flying mission again. The reality is the budget that we have and the size of the force we have does not support it and we need to fix it.

Senator UDALL. Yes, and thank you both for your comments, and we really look forward to working with you. We appreciate your testimony today.

Are there any further questions from the panel?

I guess there are not.

If there are no further questions, we would thank our witnesses for their testimony and continued assistance. We are grateful for your service and look forward to continuing a dialogue throughout the fiscal year 2018 appropriations process.

ADDITIONAL COMMITTEE QUESTIONS

Senators may submit additional questions and we will request you to respond to them within a reasonable time. We have your agreement on that, I hope.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO HON. DR. HEATHER WILSON

QUESTION SUBMITTED BY SENATOR SUSAN M. COLLINS

Question. How quickly could the Air Force ramp up production to 60 F-35A's per year, and eventually greater numbers of aircraft per year, to recapitalize its aging fighter fleet and field the number of F-35's needed to address current and future threats?

Answer. If the Air Force receives additional funding for 14 F-35As as requested in our unfunded priorities list, the Air Force would ramp up production to 60 F-35As per year beginning in fiscal year 2018.

QUESTIONS SUBMITTED BY SENATOR ROY BLUNT

Question. Secretary Wilson and General Goldfein, you are well versed in the ongoing discussions regarding the future of the A-10 and General Goldfein, we have previously discussed this issue a few times. I am proud to represent the men and women of the 442nd Fighter Wing at Whiteman Air Force Base, Missouri. It is a positive step to see that the Air Force's budget request keeps the A-10 flying for the next 5 years. However, I am worried that without a sustained commitment to maintenance issues, the Air Force will begin to retire A-10s long before we have enough aircraft to meet the bare minimum of fighter squadrons in the force. Specifically, I am worried about a lack of commitment to ensure the A-10 has new wings. I have read that the Air Force has current funding plans to replace the wings of 173 of the 283 A-10s, which means that 110 A-10s will still need new wings. As you know, the Air Force's fiscal year 2018 unfunded list requests a little over \$100 million for rewinging efforts. I believe that previous efforts to buy new wings for A-10s have cost roughly \$5 million. Thus, I was surprised to see that the Air Force says that the \$100 million request will only fund new wings for 4 A-10s. Can you explain the difference? Can you please describe the Air Force's plans to rewing the A-10?

Answer. The amount of the current fiscal year 2018 President's Budget request for A-10 Wings is comparable to the first article and low rate initial production expenditures for the original A-10 Wing Replacement Program. The cost of pre-production articles is significant due to the complexity of the A-10 wing design, the considerable manufacturing infrastructure required, along with a large supplier base and extended lead times (3+ years from contract award to First Article delivery). As full rate production accelerates, the high cost of pre-production articles is shared across increasing numbers of wings driving the average cost down significantly. If appropriated, we plan to use the \$103 million requested in the fiscal year 2018 Unfunded Priorities List to initiate a new wing acquisition program. The new program will secure the ability to procure additional A-10 wings in the future. After the UPL funding is received, it would take approximately 1 year to competitively award the new contract, with delivery of the first wing as early as fiscal year 2022. This preserves the ability to re-wing aircraft should the decision be made to retain the A-10 beyond the future years defense program, which will be informed by the fiscal year 2017 National Defense Authorization Act required comparison testing between the A-10 and F-35 in fiscal year 2021.

Question. Secretary Wilson, Portable Doppler Radar Systems allow Air Force weather operators to better forecast severe local storms and mission-limiting wind conditions for forward deployed operations and training. This is a very powerful and efficient system, but I have concerns that with so many ongoing sustained, forward operations over the last several years that many of these systems may need to be recapitalized or additional systems deployed to keep up with tempo and demand. The fiscal year 2018 budget request under Other Procurement Air Force, Line 20, Weather Observation Forecast is for \$40,116,000. Of these funds, are any planned for procuring additional Portable Doppler Radar Systems necessary for forward op-

erations and training? What is the current requirement for Portable Doppler Radar Systems?

Answer. The Air Force plan is to procure 11 additional Portable Doppler Radar Systems in fiscal year 2018, at a cost of \$8.25 million. The current requirement for operational Portable Doppler Radar systems is 41. Twenty systems are currently in service with 11 more requirements being fulfilled with the fiscal year 2018 purchase leaving an outstanding requirement for 10 additional systems.

QUESTION SUBMITTED BY SENATOR PATTY MURRAY

Question. Secretary Wilson, Washington is very proud that our Air Force installations and our communities are able to successfully work through issues as they arise. Recently the community of Airway Heights was made aware of ground water contamination associated with firefighting foam used at Fairchild Air Force Base. Of note, leadership at Fairchild Air Force Base has been communicating in an outstanding manner with both Airway Heights and Medical Lake, which has been helpful to local authorities and communities. Airway Heights and other communities in Washington State, as well as communities around the country, will be dealing with this groundwater contamination for years to come and I am worried there are not enough resources allocated to this problem. Does the Department of the Air Force have the resources to take care of every affected community and clean up all contamination?

Answer. Yes for those areas we remain responsible for as we work with other agencies to respond (e.g. EPA, Center for Disease Control, etc.). Up to this point, the Air Force has been making trade-offs and reprioritizing within existing funds to address our PFOS/PFOA issues. Starting in fiscal year 2019, we will request funding specifically for these requirements in the base budget. Once exposure is mitigated, we will address sources of contamination under the Comprehensive Environmental Response, Compensation, and Liability Act process and prioritize our actions based on risk.

QUESTIONS SUBMITTED BY SENATOR TOM UDALL

Question. Please provide an update on the ongoing analysis to determine training requirements for special operations pilots at Cannon Air Force Base. When will the Air Force release its proposal for military training routes to the public?

Answer. The 2012 New Mexico Land Grant allowed Cannon Air Force Base to reorganize the Melrose Range structure to enable additional special operations training opportunities within the existing range. This range reorganization, combined with existing military training routes, existing military operations areas, joint training events at other locations, and random visual flight rule operations, provides the 27 Special Operations Wing (SOW) the necessary range and airspace requirements with a few exceptions. Consequently, the necessary Restricted Airspace needed to facilitate 27 SOW advanced weapons employment and tactics at Melrose Range will be analyzed in Phase 2 of the Regional Special Use Airspace Optimization Project (RSOP) beginning in 2018. RSOP Phase 2 will analyze airspace throughout New Mexico and parts of Arizona in an effort to optimize Special Use Airspace and Military Training Routes for all units and missions in the region.

Question. The Air Force has committed to complete the remediation of the Kirtland Air Force fuel spill. Will you also commit to carrying out this vital work for the community? Is the project still on schedule, and what is the estimated date for completing cleanup?

Answer. The Air Force is committed to remediating the Kirtland Air Force Base (AFB) Bulk Fuels Facility site until cleanup is complete under Kirtland AFB's Resource Conservation and Recovery Act (RCRA) Permit. The project is still on schedule and we continue to program funding for cleanup and support community outreach efforts. As part of the cleanup process, the Air Force installed an interim groundwater measure that is capturing and removing contamination as planned. Three treatment pilots will begin later this year in the area where the fuel leak occurred to determine the best path forward to clean up the source area. Because the project is still in the interim measure phase, it is not possible to give a firm date on when cleanup will be completed. A schedule will be developed once the State has approved final remedies for the groundwater plume and the source area. We will continue to work with all stakeholders to determine and implement the final remedial action in accordance with RCRA.

Question. I included report language in the fiscal year 2016 and 2017 Defense Appropriations Bills to promote the development of a cyber kinetic training capability.

The fiscal year 2017 bill lauded the Air Force's efforts on this front, stating that "The Committee is encouraged by current progress to address training shortfalls in the cyber kinetic combat environment. Particularly, the Committee supports the Air Force's efforts to identify a training environment where they can replicate combat conditions and perform simultaneous operations, cyber-enabled kinetic operations, or physically-enabled cyber operations. Adversaries continue to develop asymmetric and cyber capabilities which put U.S. and allied forces at risk. The Committee encourages developing this training as a priority for the Department of Defense." What are the Air Force's current plans to continue the development of this capability and how much of a priority is it to ensure that airmen are prepared to operate in a cyber kinetic environment? Furthermore, please outline the threats that are driving the need for a cyber kinetic training capability.

Answer. The Air Force supports operating, securing, and defending cyberspace as a critical warfighting domain. The Cyber National Mission Force plans, directs, and synchronizes full-spectrum cyberspace operations to deter, disrupt, and if necessary, defeat adversary cyber actors to defend the Nation. The US Cyber Command's Cyber Mission Force (CMF) is comprised of 133 total teams organized to defend against strategic cyberattack, support the combatant commands, and operate and defend DoD Information Networks (DoDIN). By the end of fiscal year 2018, the goal is for the force to grow to nearly 6,200 and for all 133 teams to be fully operational. The Air Force provides 39 of 133 CMF teams with over 2,600 personnel from the Active and Reserve components with an operating budget of \$912.9 million in fiscal year 2018 and \$4.3 billion over the Future Years Defense Program. The increasing severity and sophistication of the cyber threat to U.S. interests, to include DoD networks, information, and systems continues as our adversaries, both State and non-State actors, are becoming ever more sophisticated. The Department of Defense has the largest network in the world and we must take aggressive steps to defend its networks, secure its data, and mitigate risks to DoD missions.

QUESTIONS SUBMITTED BY SENATOR BRIAN SCHATZ

Question. Energy assurance at our Air Force bases in the United States supports the service's ability to execute operations. More often than not, bases across the country are tied to old and unreliable civilian electric grids, and when those grids go down the Air Force's operations are interrupted. Can you tell me how this budget moves the ball forward in terms of energy assurance? How are we investing in grid stability and assured power to protect the Air Force's warfighting mission?

Answer. By policy, the Air Force considers energy security, efficiency and capability in requirements identification and budget development. We favorably consider projects improving energy resilience. Although the Air Force faces financial challenges in developing and fielding technological improvements, investments to enhance the efficiency and resiliency of aircraft platforms and critical facilities provide significant long-term benefits for the Nation, and we will continue to pursue them within budget constraints.

Question. The Air Force's fiscal year 2018 budget requests an increase of \$355.69 million for the Long Range Standoff Weapon. I find this request troubling considering the DoD is in the middle of a Nuclear Posture Review, an initiative meant to help us determine what nuclear weapons we absolutely need for a credible deterrent. Last week, Secretary Mattis told this subcommittee that he is still looking at the LRSO's deterrent value, so appropriating more money for R&D seems unwise given its uncertain future. Given the estimated cost of modernizing our nuclear weapons, do you think it is appropriate to prioritize the LRSO while this review is ongoing?

Answer. Yes. Air-launched, nuclear cruise missiles have been a critical component of the Nation's nuclear deterrent for nearly six decades. The Long Range Standoff Weapon is key to the continued credibility and effectiveness of the Nuclear Triad. In order to meet validated requirements, the Air Force is proposing to continue the LRSO program of record as reflected in the fiscal year 2018 President's Budget request.

QUESTIONS SUBMITTED TO GENERAL DAVID L. GOLDFEIN

QUESTIONS SUBMITTED BY SENATOR SUSAN M. COLLINS

Question. Based on the 14 F-35A's in the Air Force's Unfunded Requirements List, it appears the Air Force wants to procure 60 aircraft in fiscal year 2018 but budgetary restrictions reduced the number in the request. Without the constraints

of the Budget Control Act, is it accurate to say the Air Force would prefer to be at 60 aircraft per year at this point?

Answer. Yes.

Question. The defense committees have heard a lot about the proliferation of advanced air defenses and other weapons that may erode our strategic advantage to hold any target at risk. Given the evolving capabilities of our near peer adversaries, when do we need to have the B-21 bomber fielded to meet the Air Force's requirements for both strategic and conventional missions?

Answer. The B-21 is currently on track to meet initial operating capability in the mid-2020's to provide the ability to penetrate modern air defenses to accomplish national security objectives despite an advanced anti-access/area-denial environment.

QUESTIONS SUBMITTED BY SENATOR PATTY MURRAY

Question. Over the last few years the Air Force, in particular, has been increasingly sounding alarms of an imminent pilot shortage—to the extent in multiple hearings Air Force leaders have referenced the shortage as a “crisis.” In an effort to alleviate this crisis, the Air Force revised its aviation retention pay program. However, it appears the program has inadvertently created doubt as to whether the Air Force is acting in good faith to retain aviators given: (1) perceived bait-and-switch retention pay options for those who opted-in early in fiscal year 2016, and (2) the narrow eligibility criteria outlined in the fiscal year 2017 retention pay program. How many pilots opted-in early in fiscal year 2016? What were the written instructions and/or guidance published in fiscal year 2016 explaining details related to fiscal year 2016 early opt-in option and when were instructions/guidance published? How many pilots' service commitments expired in fiscal year 2016 and did not take a retention pay? What is the percentage of pilots that separate if the retention pay is not taken? How many pilots' service commitments expire in fiscal year 2017 and, to date, how many have opted-in the retention program? What was the rationale to exclude pilots whose service commitments expired in fiscal year 2016 from the fiscal year 2017 retention pay program? How many pilots are eligible in fiscal year 2018 for a retention pay program?

Answer. The Air Force did not want to create any perception of a “bait and switch.” We worked hard with Congress to seek increased authority and develop a plan to incentivize retention based on service needs. “Early enrollees” (those who signed a contract in fiscal year 2016) are eligible for the fiscal year 2017 aviation bonus (if their community offers an increased annual amount and/or contract length under the fiscal year 2017 program). “Early enrollees must extend their contract by a year. In addition, the criteria is not different from previous years' programs and was designed to assuage Congress' concerns that the Air Force was treating the bonus as an “entitlement,” while recognizing the extremely low take rate of personnel who have previously rejected the bonus on multiple occasions.

—How many pilots opted-in early in fiscal year 2016?

A: 220 of 820 (28.0 percent)

—What were the written instructions and/or guidance published in fiscal year 2016 explaining details related to fiscal year 2016 early opt-in option and when were instructions/guidance published?

A: Please see the attached proposal sent to Office of the Secretary of Defense and then released as guidance by the Air Force on December 22, 2015. Specifically, you can review the eligibility guidance beginning on page 4.

—How many pilots' service commitments expired in fiscal year 2016 and did not take a retention pay?

A: 387 initial eligible pilots did not take the bonus in fiscal year 2016 (51.6 percent did not take the bonus).

—What is the percentage of pilots that separate if the retention pay is not taken?

A: Approximately 2 percent of retirement-eligible pilots do not take a bonus. For pilots who do not take a bonus, 93 percent separate prior to 20 years; the vast majority separate within 1–2 years of declining it.

—How many pilots' service commitments expire in fiscal year 2017 and, to date, how many have opted-in the retention program?

A: 708 pilots are eligible initially for the bonus in fiscal year 2017. As of August 14, 2017, 220 signed early last year and 29 more have signed long-term contracts in fiscal year 2017.

—What was the rationale to exclude pilots whose service commitments expired in fiscal year 2016 from the fiscal year 2017 retention pay program?

A: The Air Force did not offer a bonus to pilots whose service commitments expired in fiscal year 2016 predominantly due to two issues; (1) In discussions with Congress, concerns were expressed the Air Force offered the bonus to everyone (and in the same amount) in past years and was treating this as an entitlement versus a retention tool; (2) There was the low utilization rate. Historical data showed that the number of pilots who signed a bonus after their original year of eligibility was minimal (11Fs (Fighter Pilots): 5 of 112 (4.5 percent); 11Xs (All Pilots): 37 of 447 (8.3 percent)).

—How many pilots are eligible in fiscal year 2018 for a retention pay program?
A: 814 pilots are eligible for the bonus in fiscal year 2018 initially.

Question. The KC-46A program will deliver 179 aircraft by 2028, resulting in a tanker fleet of nearly 480 aircraft. General McDew testified last month TRANSCOM wargames have not recently considered the attrition of logistics platforms to include tankers. Following revised future wargame exercises, which will consider various levels of attrition of logistics platforms, TRANSCOM will re-visit total fleet size requirements for the tanker fleet. Additionally, General McDew further testified he is concerned about delayed delivery of the KC-46As and the immediate impacts to an aging tanker fleet. Based on future wargaming outcomes and drivers behind current delays being experienced in the Federal Aviation Administration (FAA) for the KC-46A certification: Will the Air Force purchase more KC-46As, beyond the 179-contract, if new analysis from TRANSCOM indicates a greater tanker fleet size is required? Will the Air Force communicate FAA certification challenges and/or delays to the Senate Appropriations Committee-Defense Subcommittee, resulting in delays assessed at a total of 30-calendar days or greater, until delivery of the first KC-46A?

Answer. As with any program of record, the purchase of additional aircraft must be balanced with other Air Force priorities. However, should US Transportation Command validate additional requirements, they would carry significant leverage during our budget deliberations. We will continue to update Congress on additional delays to the KC-46 program.

QUESTIONS SUBMITTED BY SENATOR TOM UDALL

Question. What is the Air Force's plan to continue development of a hypersonic capability alongside Sandia National Labs? How concerned are you about Russia and China's progress developing this capability?

Answer. Our vision of the Air Force in the future includes game-changing, multi-domain technologies like hypersonic vehicles, directed-energy, unmanned and autonomous systems, and nanotechnology. In order to do this, significant investments, along with steady and predictable budgets, are required to modernize and increase capability across all domains while reversing negative trends in capacity and readiness levels. The Air Force is accelerating our research and development in hypersonics technologies. Our senior Air Force leaders met in March, 2017 to define the way forward for our hypersonic capability development. However, we can't do it alone. This is a National issue...we need the Department—as part of a National network—to push the boundaries in this area and bring hypersonic capabilities to our warfighters. The U.S. has a long history in hypersonic research and development; however, we no longer enjoy preeminence in this area, particularly as it pertains to military applications. Several countries around the world (including China and Russia) are developing and testing their own hypersonic capabilities . . . in many cases using work gleaned from the U.S. As recently concluded by the Air Force Studies Board report on High Speed Maneuvering Weapons, the U.S. may be “facing a threat from a new class of weapons that will effectively combine speed, maneuverability, and altitude in ways that could challenge this Nation's tenets of global vigilance, reach, and power.”

Question. The Air Force is responsible for two of the three legs of the triad, so it is no doubt that you have a keen interest in the life extension programs that are ongoing at the national labs. The plutonium mission at Los Alamos National Lab is one key part of the stockpile stewardship program. Would you be concerned about any changes which would increase the cost and stretch the timelines for meeting the plutonium requirements set-out by the Nuclear Weapons Council, including Strategic Command?

Answer. Yes. It is imperative that we remain on schedule regarding plutonium requirement timelines to ensure production remains synchronized with Air Force nuclear modernization programs.

QUESTIONS SUBMITTED BY SENATOR BRIAN SCHATZ

Question. The Air Force takes great strides every day to stay ahead of the A2/AD threat in the Pacific. The unfunded priority list for fiscal year 2018 identifies several requirements to support US Pacific Command's ability to sustain air operation in contested areas—vehicles and spare parts for expeditionary air fields, as well as medical equipment and prepositioned stocks of wartime materials for the 36th Contingency Group in Guam. What makes these important requirements for the Pacific and what risks are we taking [sic] by not funding them in this year's appropriations bills?

Answer. The threats in the Pacific are rapidly advancing and our response thus far is not keeping pace. In order to maintain our competitive advantage we have rethought how we set the theater, defend our bases, and employ our forces to ensure effects for the JFC. First, we need to set the theater with manning, equipment and forces to enable our fight tonight requirement. This includes: Increasing the Air Force manning to 350,000 personnel to allow 24/7 operations, rapid fielding of additive F-35 forces in theater, increased forward-deployed C2ISR forces, fully funding the Guam-based Contingency Response Group capability to enable more base opening capacity, and increased critical munitions at survivable locations such as Guam. Both the set-the-theater requirement and fully funding the Guam Contingency Response Group are on the Air Force unfunded list. Second, we need to invest in our new concept to provide for force resiliency known as Agile Combat Employment. This concept of operations allows us to be more maneuverable at the operational level but requires more operational sustainment and personnel. Finally, we need to rethink how we defend our airbases. We are currently on the wrong side of the cost curve with a \$2-\$10 million interceptor (Patriot/THAAD) going after a \$300,000 adversary munition. We need a deep-magazine active defense capability to defend against the now thousands of cruise and ballistic missiles that potential adversaries could bring to bear against our basing.

Question. Recognizing the risk in this reliance, the Air Force has been working on a project that uses new energy and cyber technologies to provide reliable power to the 154th Wing of the Hawaii Air National Guard. Can I get your commitment that the Air Force is going to follow through on this project so that if the civilian grid goes down, the Air Guard can continue to protect Hawaii and support the Air Force's mission in the Pacific without any interruption?

Answer. Based on current mission needs and funding availability, it is our intention to remain committed to this project.

SUBCOMMITTEE RECESS

Senator UDALL. With that, the subcommittee stands in recess. Thank you very much.

[Whereupon, at 11:54 a.m., Wednesday, June 21, the subcommittee was recessed, to reconvene subject to the call of the Chair.]